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ABSTRACT:

5 An optical signal processor comprises a first input
terminal for a pulse signal light with a signal wavelength,
a second input terminal for a probe light with a probe
wavelength different from the signal wavelength, a first
10 splitter to split the probe light into two portions, an XPM
optical device, to which one portion of the split output
lights from the first splitter and the pulse signal light
enter, to modulate the one portion of the split output
lights from the splitter according to amplitude variation of
the pulse signal light, a second splitter to split the light
15 with the probe wavelength phase-modulated by the XPM optical
device into two portions, a first combiner to combine the
other portion of the split output lights from the first
splitter with the one portion of the split output lights
from the second splitter in in-phase relation during a
20 period corresponding to a non-pulse period of the pulse
signal light, and a second combiner to combine the other
portion of the split output lights from the second splitter
with the output light from the first combiner in in-phase
25 relation during a period corresponding to a pulse period of
the pulse signal light.

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